Massachusetts Bays Program

Working Together to Protect the Bays

Massachusetts Bays Program

Progress Report 1990 - 2000

Welcome to the Massachusetts Bays Program Year 2000 Progress Report. We are excited to have this opportunity to showcase our successes over the past ten years and present our future goals to protect the coastal environment. Inside the following pages, you will find an overview and brief history of the Massachusetts Bays National Estuary Program, discussions of the most pressing coastal environmental issues, highlights of the Bays Program's activities, and specific actions you can take to help. We thank you for your support, and hope that you continue to partner with us as we work together to protect and restore our precious estuarine ecosystem for generations to come. Please enjoy reading about Massachusetts and Cape Cod Bays and what the MBP is and has done to preserve and enhance this national treasure.

-Massachusetts Bays Program
Staff, Volunteers, and Supporters

Estuary—A partially enclosed body of water formed where freshwater from rivers and streams flows into the ocean, mixing with the salty sea water.

Contents

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Jeff Hannigan: urchins, page 2.

Karen Hopkins: child, Contents; sampling, page 9; pipe, page 13; Salem Harbor, page 14

Stephan Gersh: Rowley River, page 12.

Susan Clemence, Clemence Photography: children, page 7

All other photography: Massachusetts Office of Coastal Zone Management archives

Massachusetts Bays

Bringing Our Estuaries New Life

Shellfish have historically been one of the most abundant and heavily utilized resources along the coast of the Massachusetts Bays.

Why Is the Massachusetts Bays Estuary Important?

Massachusetts is blessed with a rich and diverse coastline of salt marshes, tidal flats, beaches and estuaries that are of immeasurable value to the Commonwealth's citizens and its native wildlife. Estuaries – where the land meets the sea – provide unique habitats for marine life, including commercially important shellfish, and provide economic, recreational and aesthetic value. Residents and visitors enjoy the pleasures of swimming, boating, bird watching, and recreational fishing. Tourists spend approximately $1.5 billion per year and support nearly 81,000 jobs. And despite declines in regional fish stocks, commercial fishing in Massachusetts continues to be a multi-million-dollar industry.

Today, however, Massachusetts' estuaries are increasingly jeopardized by development along the coast and in upland watersheds. Development has destroyed or degraded thousands of acres of critical wildlife habitat, and has brought increased pollution from stormwater runoff, municipal and industrial discharges, and other sources.

Fortunately, it is not too late to reverse the trend of habitat loss and declining water quality. The Massachusetts Bays National Estuary Program (MBP) is leading the effort to develop regional solutions to pollution problems in Massachusetts Bay, Cape Cod Bay, and the adjacent watersheds—an area of about 1,650 square miles stretching from the tip of Cape Cod to the New Hampshire border (see map on page 6).

Meet the Massachusetts Bays Program

The MBP is a partnership of local, state, and federal governments, as well as citizens, scientists, educators, and businesses, all united behind a principal mission: the preservation and management of a healthy ecosystem of living resources, useable by the public. Since the program's launch, in 1988, we have made significant strides towards succeeding in our mission. How have we done it? By setting specific, measurable goals for restoring and protecting water quality and the diverse natural resources of the Massachusetts Bays. By promoting regional problem-solving to protect and manage shared natural resources. And by developing and implementing locally based solutions to some of our most intractable environmental problems.

The following pages tell the story of the MBP—our history, the exciting coastal initiatives underway to protect the Bays, and our goals for the years ahead. But, most importantly, you'll read about how you can get involved...because the Massachusetts Bays will continue to thrive only if all of us who use and enjoy our bountiful resources share the responsibility for their protection.

A wide variety of species is found in the Massachusetts Bays' diverse habitats.

Protecting sensitive marsh habitats is one of more than 70 actions that the Massachusetts Bays Program takes to preserve Massachusetts and Cape Cod Bays (Great Marshes of Barnstable).

Program Background

How It Works: Then and Now

The MBP was launched in 1988 to actively address the mounting threats to the health of Massachusetts and Cape Cod Bays. In 1990, the U.S. Environmental Protection Agency (U.S. EPA) accepted the MBP into the National Estuary Program, which was established to identify nationally significant estuaries threatened by pollution, development, or overuse, and to promote the preparation of comprehensive management plans to ensure their ecological integrity. Over a 6-year period, the MBP developed a Comprehensive Conservation and Management Plan (CCMP) for the Bays region with the help of hundreds of individuals representing a wide array of private, government, and community interests. The final CCMP, published in 1996, serves as a blueprint for coordinated action for managing and protecting the Bays' resources. It features 15 action plans containing over 70 specific recommended actions for preventing pollution, preserving habitat, and restoring the Bays' degraded resources.

The combined efforts of scientists, government officials, and private citizens has helped the return of harbor seals, like this one on the Sandy Neck Barrier Beach/ACEC (Beach Point) in Barnstable.

Today, the MBP's staff and resources are entirely committed to implementing the actions called for in the CCMP. We do this in a number of ways:

Building Partnerships

The CCMP identifies dozens of organizations, both governmental and non-governmental, that are responsible for taking the steps needed to protect and restore the Bays. The MBP works to build partnerships and promote coordinated action among organizations who share a common goal or whose responsibilities overlap.

Promoting Local and Regional Solutions

The unique structure of the MBP enables us to identify and remedy environmental problems that require a local and regional focus. To implement actions at the local and regional level, we depend heavily on the Commonwealth's Regional Planning Agencies and on the MBP's five Local Governance Committees (LGCs).
See page 6.

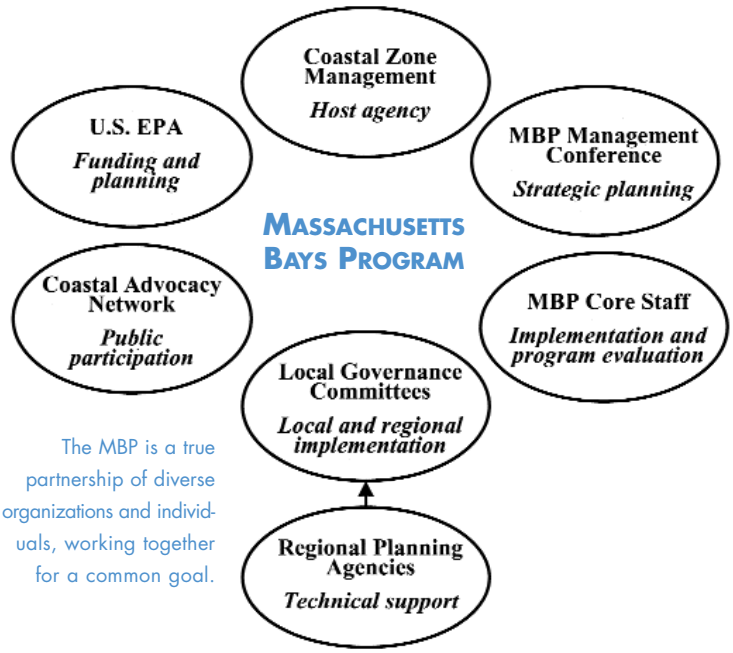
Developing Models That Work

Throughout our history, the MBP has acted as an innovator, generating locally based models for addressing environmental challenges, initiating and nurturing programs based on these models, then working with our partners to replicate local successes regionwide. The following pages describe several of these innovative programs.

Who Participates in the MBP?

As you read this brochure, you'll encounter brief profiles of some of the partners who participate in the MBP. The MBP depends on the contributions of hundreds of partners, from the U.S. EPA (the primary funder) to various state agencies responsible for specific actions in the CCMP, from local government representatives to the innumerable volunteers working to implement the CCMP in their own communities. The program is a true partnership of diverse organizations and individuals, working together for a common goal.

Partners in Protection



The MBP is a true partnership of diverse organizations and individuals, working together for a common goal.

Partner Profile

Coastal Advocacy Network

Formed as the public participation arm of the MBP, the Coastal Advocacy Network (CAN) is a coalition of local and regional environmental advocacy and educational organizations from the communities around the Massachusetts Bays. Members of the CAN played a critical role in the creation of the MBP's Comprehensive Conservation and Management Plan, promoting the views of non-governmental organizations concerned about management of the Bays. The CAN also has provided key public review of major government projects that threaten the Bays' ecosystems, including the Massachusetts Water Resources Authority's new sewage outfall in Boston Harbor. Today, after years of administrative and funding support from the MBP, the CAN functions as an independent entity—the only advocacy group that presents a united front on statewide coastal issues. It is well respected on Beacon Hill and frequently weighs in on national issues.

Working Locally

Building Partnerships

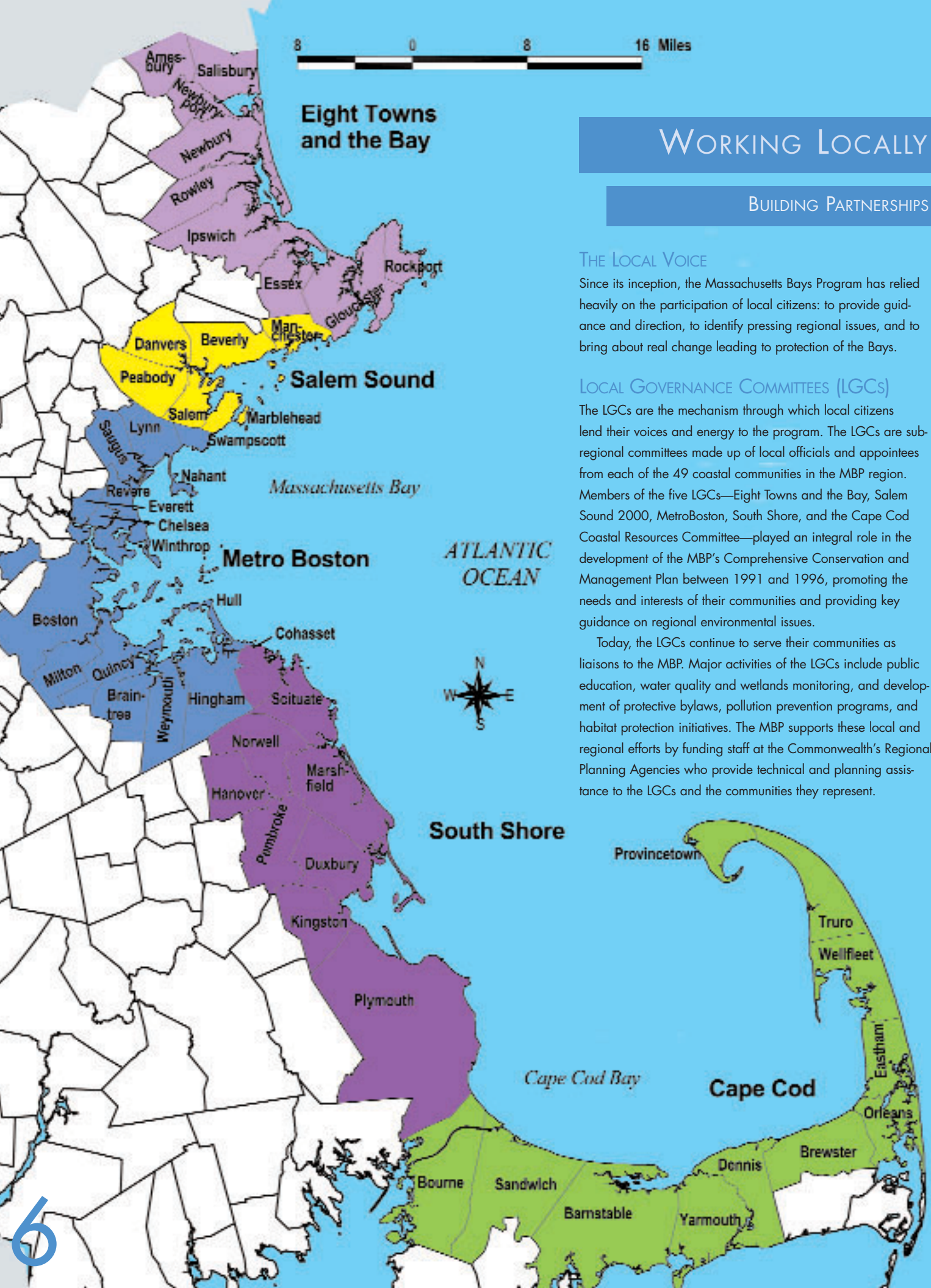
The Local Voice

Since its inception, the Massachusetts Bays Program has relied heavily on the participation of local citizens: to provide guidance and direction, to identify pressing regional issues, and to bring about real change leading to protection of the Bays.

Local Governance Committees (LGCs)

The LGCs are the mechanism through which local citizens lend their voices and energy to the program. The LGCs are sub-regional committees made up of local officials and appointees from each of the 49 coastal communities in the MBP region. Members of the five LGCs—Eight Towns and the Bay, Salem Sound 2000, MetroBoston, South Shore, and the Cape Cod Coastal Resources Committee—played an integral role in the development of the MBP's Comprehensive Conservation and Management Plan between 1991 and 1996, promoting the needs and interests of their communities and providing key guidance on regional environmental issues.

Today, the LGCs continue to serve their communities as liaisons to the MBP. Major activities of the LGCs include public education, water quality and wetlands monitoring, and development of protective bylaws, pollution prevention programs, and habitat protection initiatives. The MBP supports these local and regional efforts by funding staff at the Commonwealth's Regional Planning Agencies who provide technical and planning assistance to the LGCs and the communities they represent.



PARTNER PROFILE

The Mass Bays Education Alliance

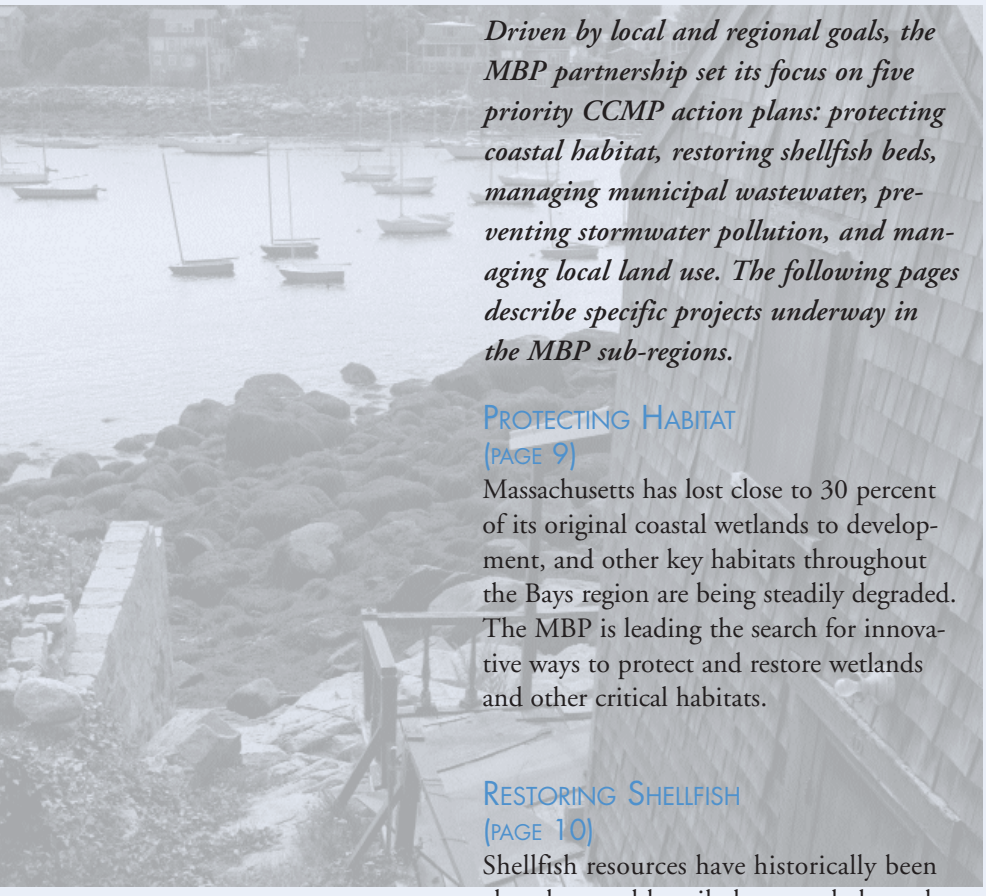
Formed in 1993, the Massachusetts Bays Education Alliance is a community of educators who promote the protection of Massachusetts' bays, shores, and watersheds through their teaching. Created as a subcommittee of the MBP, the Alliance provides educational resources and encourages planning and implementation of environmental education programs. It unites environmental education organizations and agencies across the region. Major accomplishments of the Alliance include the production of the highly acclaimed, 300-page Massachusetts Bays Watershed Stewardship Guide, An Educational Resource. The Alliance has also organized over 28 teacher workshops, six major teacher conferences, and a graduate-level summer course offered through UMass-Boston. Today, the Alliance functions as an independent arm of the MBP, securing grants for environmental education and contributing to the implementation of the CCMP. Its 900 members are leading the effort to educate students, parents, teachers, and communities about watershed issues and the values of environmental stewardship.

Watershed—An area of land that drains into a water body such as a river, lake or the sea.

Through formal education and outreach, the MBP works to instill an appreciation and understanding of Massachusetts Bays' coastal treasures (Kingsbury Beach, Eastham).

Coastal Initiatives

Taking Action



Massachusetts harbors support numerous commercial fishing industries and provide recreational opportunities for local residents.

Driven by local and regional goals, the MBP partnership set its focus on five priority CCMP action plans: protecting coastal habitat, restoring shellfish beds, managing municipal wastewater, preventing stormwater pollution, and managing local land use. The following pages describe specific projects underway in the MBP sub-regions.

Protecting Habitat (page 9)

Massachusetts has lost close to 30 percent of its original coastal wetlands to development, and other key habitats throughout the Bays region are being steadily degraded. The MBP is leading the search for innovative ways to protect and restore wetlands and other critical habitats.

Restoring Shellfish (page 10)

Shellfish resources have historically been abundant and heavily harvested along the Massachusetts Bays' coast. Sadly, due to disease-causing viruses and bacteria, only about 77 percent of the state's shellfish resources remain permanently open. The MBP has been a catalyst for the development of a cooperative, cutting-edge approach to shellfish management.

Managing Wastewater (page 13)

Mounting development pressures in coastal areas present significant challenges in providing sewage treatment and disposal. Both large centralized wastewater facilities and individual onsite septic systems can cause local and regional declines in water quality and ecosystem health. The MBP is contributing to the search for new, environmentally sensitive approaches to onsite treatment and disposal.

Preventing Pollution (page 14)

As precipitation falls, it washes pollutants into coastal waters. Development increases the volume of this stormwater by increasing the amount of land that is impenetrable to water (e.g., roads, driveways, buildings). The MBP is working with municipalities to measure and correct stormwater impacts on water quality.

Managing Local Land Use (page 15)

Roughly 3.8 million people now live in the Massachusetts Bays watershed, and the number is growing. This growth, and the rapid development that accompanies it, exacerbates environmental problems by increasing stormwater runoff, sewage-related pollution, and pressure on fragile coastal habitat. The MBP's Healthy Habitats Initiative is a new, multifaceted approach to habitat protection and community planning.

Protecting Habitat

Volunteers Assessing Wetlands

Measuring the success of wetland restoration efforts is a tricky task. Traditionally, environmental managers have correlated success with the acres of wetland restored. However, this measure does not take into account the health of the wetland ecosystem, and whether it is serving its critical function as habitat for a wide range of organisms.

To look at wetlands preservation more holistically, scientists from the Massachusetts Bays Program, Coastal Zone Management, and the UMass Cooperative Extension have developed the Wetlands Health Assessment Toolbox (WHAT), a unique approach to assessing wetland quality and ecological health. Using the WHAT approach, scientists can assess the ecological integrity of wetland sites by evaluating the condition of six indicators: land use, vegetation, tidal influence, aquatic macroinvertebrates, birds, and water chemistry. By combining the information obtained for each of these parameters, scientists arrive at an overall picture of a wetland's health, expressed as a numeric score or ranking.

In the summer of 1999, with the help of an enthusiastic group of citizen volunteers, the MBP scientists and their partners tested the WHAT approach at four wetland sites on the North Shore where restoration projects are currently planned or underway. The project began with a series of intensive training sessions, organized by MBP's Eight Towns and the Bay and Salem Sound 2000 Local Governance Committees, during which more than 40 volunteers received hands-on practice at a variety of monitoring techniques. The trained volunteers then worked in teams to gather data at the four sites, located in the North Shore towns of Ipswich, Essex, Gloucester, and Salem.

The MBP and its partners plan to monitor these sites closely over a number of years to measure the effectiveness of each restoration project. By comparing the volunteers' data with data that they themselves gather, the scientists hope to demonstrate that citizen volunteers can, with a little training, use the WHAT approach to obtain accurate results about wetland health. The MBP also plans to adapt the WHAT model at numerous sites around the state to involve a larger number of citizens in the stewardship of their local wetlands.

"I learned a lot of valuable skills from participating in the wetland health assessment project, and I got a very different perspective on how wetlands work. The training itself was really intensive—especially the invertebrates training, which was two full weekends. But people did it, and went out and did the monitoring and really enjoyed themselves. It was great to meet people who share my concerns about the environment and want to do something about it."

—Cindy Richmond, Volunteer

The MBP is a leader in linking science, policy and citizen participation. Here, a volunteer learns first-hand about the importance of assessing environmental quality through the MBP's innovative Wetlands Health program.

WANT TO GET INVOLVED?

If you're interested in participating in wetland health assessment, call the MBP at the number listed on the back of this brochure.

Restoring Shellfish

The MBP integrates multiple approaches at the state and local levels to reduce fecal coliform contamination responsible for closures and lost shellfishing throughout the region.

Developing Models That Work

Shellfish bed closures are often linked to intense development pressures experienced along our coastlines and coastal watersheds. On Cape Cod, for example, restrictions on shellfish harvests increased tenfold between 1980 and 1990—a period when development rates on the Cape were among the highest in the state. Development brings with it increased discharge from sewage treatment plants and combined sewer overflows, increased stormwater runoff from paved surfaces, and increased numbers of septic systems—all of which contribute pathogens to our nearshore waters. To protect and restore our shellfish resources, we need to control these many pollutant sources, which is a job too big for any one agency or organization.

Recognizing the need for a new approach to shellfish management, in 1993 the Massachusetts Bays Program spearheaded the development of an integrated, interagency program aimed at restoring and protecting shellfish beds in the Massachusetts Bays. The Shellfish Clean Waters Initiative (SCWI) is a coordinated partnership of the MBP, Coastal Zone Management, the Division of Marine Fisheries, the Natural Resources Conservation Service/MassCAP, County Conser-vation Districts, the Department of Environmental Protection, and coastal communities. The goal of this partnership is to restore closed shellfish beds and ensure the sustained management of open beds. Twelve sites, ranging geographically from Ipswich to Harwich, have been selected for a pollution mitigation and monitoring program with a long-term goal of reopening shell-fish beds.

The MBP hired a program coordinator in 1995, who has led the effort to assess pollution sources at each of the 12 sites, design and implement mitigation strategies, and develop monitoring programs to ensure that reopened beds remain harvestable. Early successes of the program include:

- The installation of hi-tech "StormTreat" systems for treating stormwater discharge at two sites in Gloucester and Harwich. The SCWI is currently monitoring the effective ness of these innovative treatment systems for possible use at other sites.
- The completion of preliminary assessment at all 12 sites. Current efforts are focused on determining the causes of non-point pollu tion and documenting storm drain discharges.

In 1998, after five years of providing staff and funding to nurture the SCWI, the MBP turned over the program to the Massachusetts Office of Coastal Zone Management (MCZM). MCZM built on the SCWI's demonstrated success and expanded its scope to cover the entire Massachusetts coast. Today, MBP staff continues to work closely with the SCWI coordinator and other program partners to ensure the ongoing success of the program, now seen as a model for effective interagency coordination.

Restoring Shellfish Harvests

Shellfishing has long been a commercial and recreational staple in the Town of Duxbury, where roughly $700,000 worth of shellfish is harvested annually. Over the past decades, however, significant portions of the shellfish beds in Duxbury and Kingston Bays have been closed to harvest, either temporarily or permanently. The reason? High levels of fecal coliform

bacteria, resulting primarily from failed or overburdened septic systems in waterfront neighborhoods.

Contamination of coastal embayments from onsite wastewater systems is a problem shared by many towns in the Commonwealth. In Duxbury, town officials have taken a proactive approach to dealing with the problem. Working closely with the Massachusetts Bays Program, the Shellfish Clean Waters Initiative (SCWI), and the Division of Marine Fisheries (DMF), the town is developing creative solutions to its onsite wastewater problems.

In 1996, the town completed construction of a shared sewer/septic system to collect and treat waste from three houses located at the mouth of the Bluefish River, a small tidal river that contains hundreds of acres of softshell clam beds. The three houses stand on filled salt marsh that floods regularly. For years, this flooding had overburdened the houses' existing septic systems, carrying sewage into the river and causing elevated fecal coliform levels. The new shared system, which was designed with a $32,000 grant from the MBP, has brought bacteria levels into the safe range, leading to the reopening of 99 acres of productive shellfish beds.

The town is now using the Bluefish River remediation project as a model to deal with onsite wastewater problems at other locations. In a neighborhood on Kingston Bay, the town is constructing a shared waste-collection-and-treatment system to stop ongoing contamination of 100 acres of highly productive shellfish beds that have been closed since 1978. This shared system, known as the Bay Road system, will serve 31 houses whose waste disposal systems have either failed or are regularly inundated by the tides, and are contributing to bacterial contamination of Kingston Bay. The new system will convey waste from all 31 houses to two large septic tanks located on public property, well outside the tidal flood zone.

The use of shared or neighborhood wastewater systems is an innovative solution to an increasingly common problem in Massachusetts. The Bluefish River and Bay Road projects demonstrate that, with creative thinking and collaborative effort, onsite treatment of waste can be effectively managed even in environmentally sensitive areas.

Health officials from the towns of Beverly and Marblehead posted public warnings of unsafe water quality at numerous storm drainages located near swimming beaches.

PARTNER PROFILE

Salem Sound 2000

Salem Sound 2000 (SS2000) was launched in 1990 when a small group of local leaders recognized the need for a regional watershed organization that would bring Salem Sound's communities together to share responsibility for stewardship of the common resource. In 1992, the organization received a major boost when the Massachusetts Bays Program designated SS2000 as the region's Local Governance Committee. With staffing, technical assistance, and funding from MBP, SS2000 initiated an ambitious effort to train citizen volunteers to monitor water quality and identify pollution sources within the Sound. As SS2000 continued to grow through the 1990s, the citizen monitoring program became the hub for a number of other volunteer-based initiatives, including Massachusetts Adopt-a-Stream and Wetlands Health Assessment Toolbox programs (see page 9). Today, SS2000 is an effective and influential non-profit organization, with full-time staff, an active membership, and a strong board of directors. SS2000 has trained nearly 100 volunteers in water-quality monitoring, and its data is well respected and utilized by state and federal agencies.

Estuarine areas such as the Rowley River on the North Shore provide critical habitat for numerous bird and fish species.

Managing Wastewater

Solving Onsite Wastewater Problems

Over the past decade, there has been a growing awareness throughout the Massachusetts Bays region of the damage done to the environment by nutrients discharged from onsite septic systems. This awareness has focused attention on the need for alternative wastewater technologies that more effectively remove nutrients and other harmful constituents from household waste.

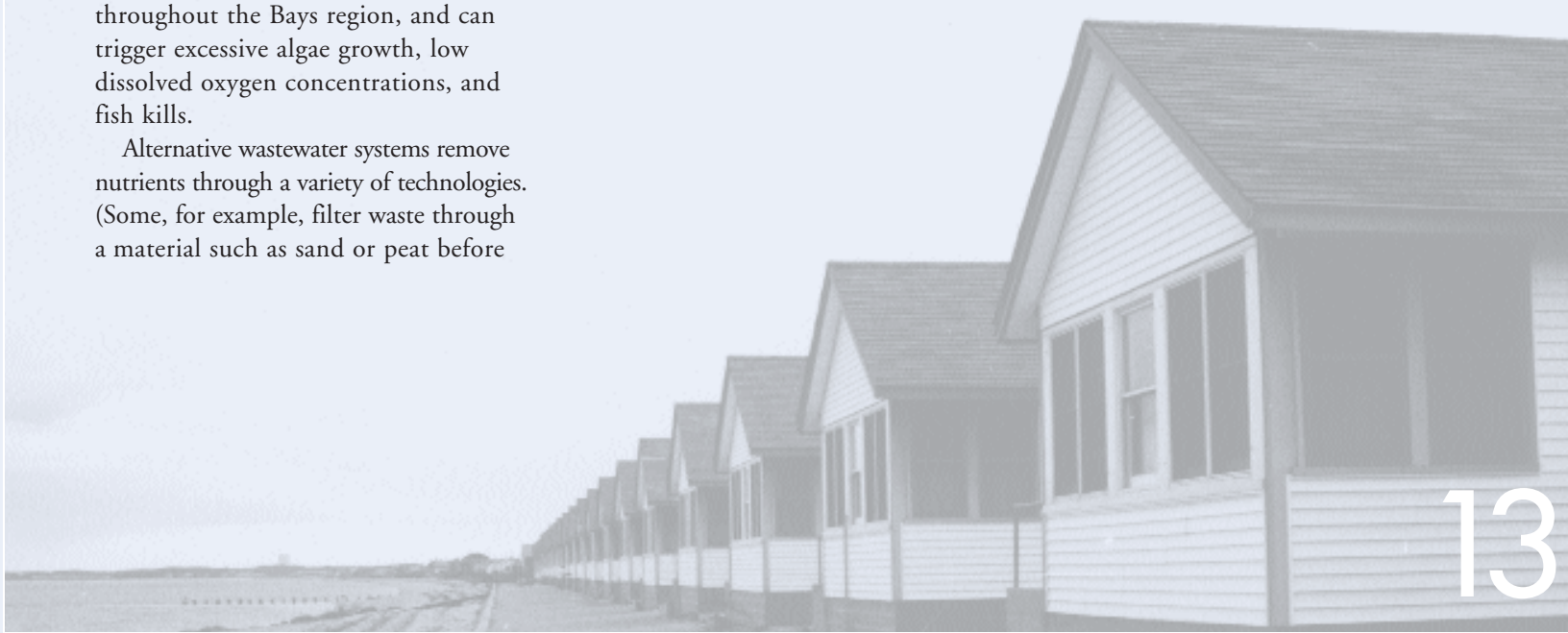
In 1994, the Massachusetts Bays Program answered this need by launching the Alternative Septic System Initiative in partnership with the Barnstable County Department of Health and the Environment (BCDHE). This program has two main goals: to gather and disseminate information on the performance, reliability, and effectiveness of various alternative wastewater systems, and to assist with the selection and installation of appropriate systems at specific sites around Cape Cod.

Alternative wastewater systems differ from standard septic systems by removing nutrients from household waste—something that standard septic systems generally don't do. Overloading of nutrients in coastal waters is a major concern throughout the Bays region, and can trigger excessive algae growth, low dissolved oxygen concentrations, and fish kills.

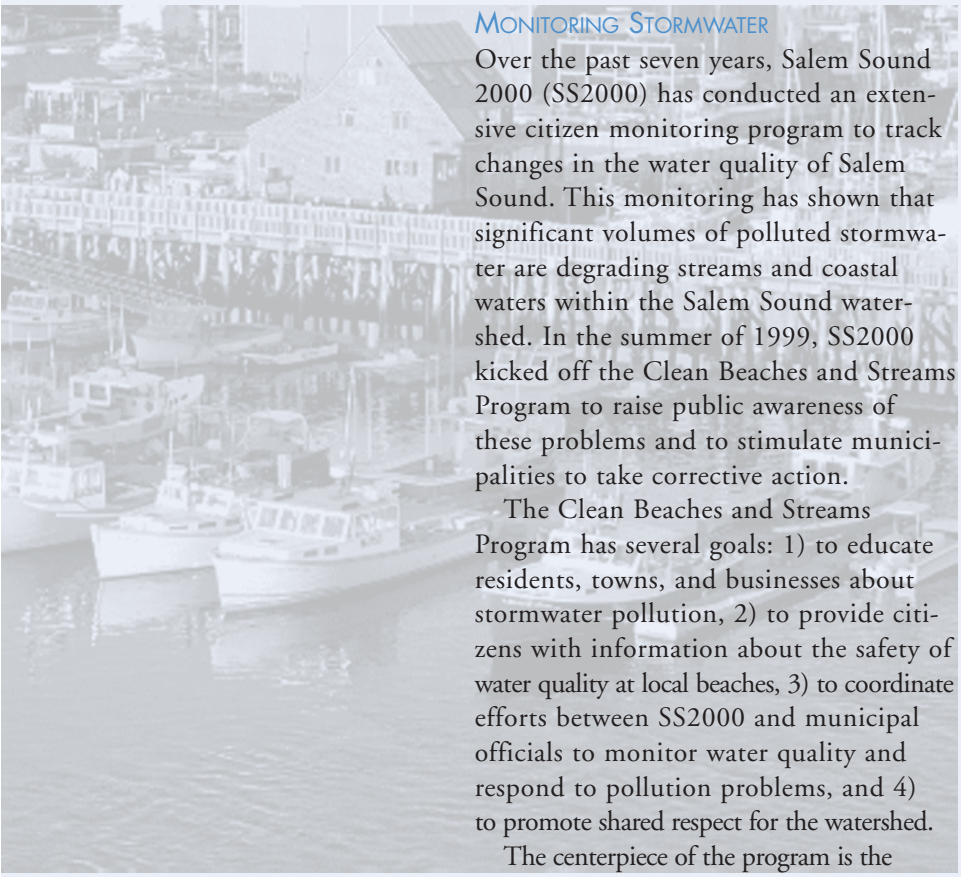
Alternative wastewater systems remove nutrients through a variety of technologies. (Some, for example, filter waste through a material such as sand or peat before discharging it to the soil.) Over the past six years, the Alternative Septic System Initiative has played an integral role in encouraging the use of these various technologies and demonstrating their effectiveness at sites Capewide. BCDHE staff, hired through MBP funding, has provided technical assistance to Boards of Health, engineers, and homeowners interested in alternative wastewater technologies, and has helped evaluate the suitability of various alternative systems at sites around the Cape. With MBP funding, BCDHE also published a series of newsletters to familiarize Boards of Health with alternative septic technologies, their proper application, and permitting requirements. As an increasing number of alternative systems have been installed, the Alternative Septic System Initiative has led efforts to develop monitoring plans for evaluating alternative system performance.

As interest about alternative onsite septic systems grows throughout the Massachusetts Bays region, there will be an increased demand for detailed information on specific technologies. The Alternative Septic System Initiative provides an excellent model for delivery of this critical technical assistance.

The Salem Sound 2000 (SS2000) monitoring program identified a sewage break that was discharging 17,000 gallons of raw sewage per day directly into Salem Sound. SS2000 notified the DPW of the problem and the break was repaired.



Preventing Pollution



During its 10 year history, Salem Sound 2000 has successfully rallied citizens around a common resource and continues to work for a cleaner Salem Sound.

The Massachusetts Bays region includes nearly 40 lighthouses.

Monitoring Stormwater

Over the past seven years, Salem Sound 2000 (SS2000) has conducted an extensive citizen monitoring program to track changes in the water quality of Salem Sound. This monitoring has shown that significant volumes of polluted stormwater are degrading streams and coastal waters within the Salem Sound watershed. In the summer of 1999, SS2000 kicked off the Clean Beaches and Streams Program to raise public awareness of these problems and to stimulate municipalities to take corrective action.

The Clean Beaches and Streams Program has several goals: 1) to educate residents, towns, and businesses about stormwater pollution, 2) to provide citizens with information about the safety of water quality at local beaches, 3) to coordinate efforts between SS2000 and municipal officials to monitor water quality and respond to pollution problems, and 4) to promote shared respect for the watershed.

The centerpiece of the program is the Clean Beaches and Streams Network—a new partnership designed to facilitate communication on stormwater issues among SS2000, municipal health officials, and Department of Public Works (DPW) staff in the region. SS2000 focuses its water monitoring on storm drains and streams that discharge into Salem Sound, whereas the six local health officials conduct separate water quality monitoring at area beaches. Under the Network, SS2000 and health officials communicate regularly, coordinate monitoring efforts, and share lab results. If a pollution problem is detected, SS2000 and health officials work with DPW staff to organize a fast response, which can include identifying the pollutant source (for example, a broken sewer pipe), posting a beach or storm drain to warn the public of a health hazard, and/or planning a corrective strategy.

To provide the public with clear, understandable information about water quality and safety at local beaches, SS2000 also published and widely distributed monthly Beaches and Streams Reports throughout the summer of 1999. SS2000 plans to build on this success by publishing these reports more frequently in coming years and by developing a public education pamphlet showing citizens what they can do to become good advocates and stewards for their beaches and streams.

Managing Land Use:

A Focus for the Future

The previous pages described some of the exciting work the Massachusetts Bays Program is doing to protect and restore the diverse natural resources of the Bays. However, much work remains to be done. In January 2000, the MBP launched a new campaign—the Healthy Habitats Initiative—to address two priority goals for the next three years: protecting and enhancing coastal habitats and managing local land and resource use.

Healthy Habitats Initiative

Over the past decade, the MBP has made remarkable progress in its efforts to protect and restore coastal habitat. Reopening shellfish beds impacted by septic discharge, restoring tidal flow to wetlands fragmented by road construction, monitoring the effects of stormwater runoff—these critical actions are bringing us closer to the preservation and management of a healthy Bays ecosystem. However, none of these actions target the root cause of most habitat loss and degradation: uncontrolled or poorly planned development.

MBP's Healthy Habitats Initiative is a multifaceted approach to resource management that treats habitat protection and land use planning as the interlinked issues that they are. The Initiative will allow the MBP to leverage innovations in research, protection, management, and education town by town and throughout the region.

The goal of this three-year initiative is to protect critical habitat and unique community character by helping towns preserve open space, protect wetlands, prevent stormwater impacts to water quality, and manage coastal resources. The Healthy Habitats Initiative consists of two major elements: a regional research and management conference entitled "A New Vision for Environmental Protection in the 21st Century: Using Biology to Signal Ecological Health," and a number of individual subregional supporting projects.

The regional conference (November 2 and 3, 2000) aims to help environmental managers use biological indicators, such as the number of bird species in a restored wetland, to determine the health of an ecosystem. The MBP recognizes the importance of measuring the quality and diversity of life, in addition to chemical water quality, to fully evaluate the health of an ecosystem. Our Wetlands Health Assessment Toolbox (WHAT) program is based on using numerous biological, chemical, and ecological indicators to analyze ecosystem health. The conference will showcase the WHAT program, and other cutting-edge technologies and methodologies designed to improve protection efforts (see page 9).

The Initiative's supporting projects target two areas: habitat preservation and innovative community planning. The intent of these projects is to use the MBP's partnerships and technical expertise to implement specific solutions to local and regional habitat threats. Some projects build on current successes of the MBP, others are new, but all address local needs, and all have been designed, and will be guided, by the MBP's five regional Local Governance

The MBP's focus for the future includes protecting critical habitat and managing land use to preserve the unique character of Massachusetts and Cape Cod Bays.

Committees. A partial listing of the projects in the Healthy Habitats Initiative includes:

- Expanding the Wetlands Health Assessment Toolbox program on the North Shore (see page 9). This project will train additional volunteers, assess the health of wetlands, and produce a model applicable throughout New England.

- Restoring tidally restricted wetlands on the North Shore, South Shore, and Cape Cod. Roads and railroads often cross wetlands, limiting the flow of tides and changing the natural occurrence of species, reducing viable habitat and allowing flooding in storm conditions. These three projects will inventory impacted wetland areas. These inventories will then be used to prioritize and guide restoration efforts to improve wetland health.

- Restoring "pocket" wetlands in the metropolitan Boston area. The metropolitan Boston area contains wetland enclaves. that suffer from the impacts of the surrounding urban development, such as invasion by aggressive plant species that force out native wetlands plants. This project will be a pilot effort to restore these wetlands to health.

- Providing technical expertise on stormwater issues to municipal officials and non-point source pollution outreach to the public throughout the region. The MBP has built a foundation of providing local technical assistance and outreach to the general public. These projects will include workshops, events, and publications that promote protection of critical habitat.

- Pursuing "No Discharge Area" designations and developing guidelines for personal watercraft use on Cape Cod. Discharges of human waste from boats and pollution and erosion associated with personal watercraft pose a threat to the Cape's coastal waters, its living resources, and the economy that is dependent on the high quality of those resources. These projects will: 1) gradually designate specific areas of Cape Cod as "No Discharge Areas"—areas where boats cannot discharge waste; and 2) develop and implement consistent regulations governing the use of personal watercraft in especially sensitive areas of the Cape.

The MBP's Healthy Habitats Initiative will provide habitat protection throughout the Massachusetts Bays region through the combined efforts of the conference and supporting projects. Specifically, these endeavors will produce critical research, important local initiatives, innovative management tools, and much-needed outreach to local officials and the public about the importance of habitat to the Massachusetts and Cape Cod Bays ecosystem.

As we move further into the 21st century, we will use our unique regional partnership, local technical assistance, and public outreach and education to focus on protecting public health, reducing and preventing stormwater pollution, and managing local land use and growth to restore a healthy Massachusetts and Cape Cod Bay ecosystem.

In Closing . . .

The previous pages have illustrated the Massachusetts Bays Program's rich history, coastal initiatives, and exciting future direction. Help us build on the progress we have made by contributing your talent and energy to the Massachusetts Bays Program! We are blessed with an extraordinary resource that provides us with recreation, livelihood, a place to rejuvenate, and critical wildlife habitat. But, only by combining our unique abilities can we hope to restore Massachusetts and Cape Cod Bays to a place where fishermen haul in healthy harvests, children delight in clean beaches, and we all enjoy sparkling waters. You can make a difference by supporting the Massachusetts Bays Program.

Do Your Part

FIVE THINGS YOU CAN DO TO SAVE THE BAYS

1) TAKE ACTION IN YOUR HOME. Reduce your use of chemicals, detergents, fertilizers, and pesticides—it will make a difference. For details, call the MBP and request the fact sheet "A Clean Coast Begins at Home."

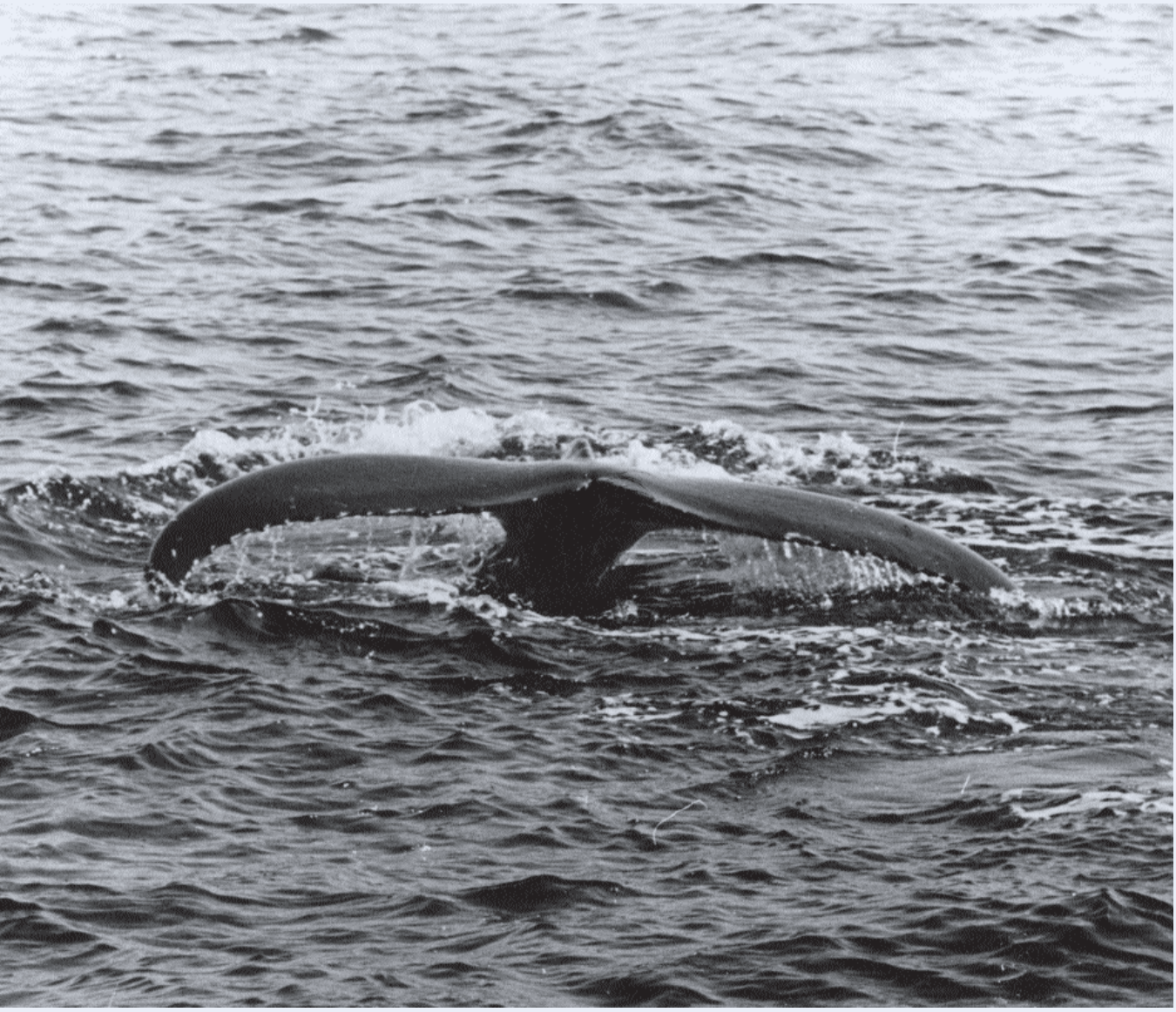
2) PROTECT THE COAST IN YOUR COMMUNITY. The MBP has representatives from every coastal community working to protect the coast. Contact the MBP to see how you can help.

3) PARTICIPATE IN THE ANNUAL COASTSWEEP CELEBRATION. COASTSWEEP is a great way to lend a hand, pick up some trash, and restore our coast. Watch the MBP Web site (www.massbays.org) and the Coastal Zone Management newsletter or web site (www.state.ma.us/czm) for more information.

4) SUPPORT FUNDING AND PROTECTIVE LEGISLATION FOR THE MASSACHUSETTS BAYS. State and federal legislators need to hear from you, their constituents. For alerts on issues that need you support, contact the MBP or the Association of National Estuary Programs, a Washington, D.C.-based nonprofit organization that supports the 28 National Estuary Programs (703-333-6150, drvolk@erols.com).

5) ENJOY AND PROMOTE THE BAYS' RESOURCES. Whether you paddle, swim, hike, fish, or boat...whether the Bays provide you with recreation or your livelihood, communicate your interest in their protection to elected officials, educators, peers, and your children. Support your local watershed group. Volunteer your time to a local board. Speak up at Town Meeting. Write a letter to your local newspaper. Contact the MBP for more information.

MASSACHUSETTS BAYS PROGRAM
251 Causeway Street, Suite 900
Boston, Massachusetts 02114
(617) 626-1230
www.massbays.org



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